National Institute of Environmental Health Sciences

Seasonal variability of acute myocardial infarction in a Western Anatolian city and its relations to acute infections and climate

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Year: 2007
Journal: International Angiology : A Journal of The International Union of Angiology. 26 (3): 285-289

Abstract:

AIM: Some studies suggest that changes in climate may increase the rate of acute infections and also acute myocardial infarction (AMI). However, regional, cultural and ethnical differences may cause changes in seasonal distribution of AMI. In this study, we aimed to investigate the associations between AMI and acute upper respiratory tract infection (ARTI) and changes in climate in Turkish population. METHODS: In this study, we included 1 312 patients hospitalized with the diagnosis of AMI and 13 561 patients diagnosed with ARTI in our hospital. The changes of temperature and humidity of the city was obtained as average of the month. The data were matched statistically. RESULTS: Patients with ARTI showed significant seasonal variability. Although the frequency of AMI was higher in winter than other seasons, it was not statistically significant. There is a linear correlation between ARTI and AMI, and also between humidity and the incidence of AMI, and an inverse correlation between air temperature and the rate of AMI in Usak city in Turkey. CONCLUSION: This study revealed that ARTI is associated with an increased risk of AMI and it is also true for Turkish population, but there is no significant seasonal variability of AMI in Turkish population. Furthermore, no significant correlations have been found between AMI and ARTI, air temperature and humidity in female patients. These results may be related to the fact that most of the women are housewives, not facing outside climate changes in Turkish population.

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : Turkey

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Respiratory Effect

Cardiovascular Effect: Heart Attack

Respiratory Effect: Other Respiratory Effect

Respiratory Condition (other) : acute upper respiratory infections

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified